Lloyd's Register

Rules and Regulations for the Classification of Ships, July 2008

Notice No. 12

Effective Date of Latest Amendments:

See page 1

Issue date: May 2009

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RULES AND REGULATIONS FOR THE CLASSIFICATION OF SHIPS, *July 2008*

Notice No. 12

This Notice contains amendments within the following Sections of the *Rules and Regulations for the Classification of Ships, July 2008.* The amendments are effective on the dates shown:

Part	***Chapter***	***Section***	***Effective date***
1	2	3	Corrigendum
1	3	1, 2	1 July 2009
3	5	1	Corrigendum
4	2	5, 11	Corrigenda
5	13	12	Corrigendum
6	1	3	Corrigendum
6	2	3	Corrigendum

It will be noted that the amendments also include corrigenda, which are effective from the date of this Notice.

The *Rules and Regulations for the Classification of Ships, July 2008* are to be read in conjunction with this Notice No. 12. The status of the Rules is now:

Rules for Ships	Effective date:	July 2008
Notice No. 1	Effective date:	1 August 2008 & Corrigenda
Notice No. 2	Effective date:	1 January 2009 &Corrigenda
Notice No. 3	Effective date:	1 November 2008 & Corrigenda
Notice No. 4	Effective dates:	1 May 2007 & 1 July 2008
Notice No. 5	Effective date:	1 January 2009 & Corrigenda
Notice No. 6	Effective date:	1 January 2009 & Corrigenda
Notice No. 7	Effective date:	1 January 2009
Notice No. 8	Effective date:	1 March 2009 & Corrigenda
Notice No. 9	Effective date:	1 July 2009
Notice No. 10	Effective date:	1 July 2009 & Corrigendum
Notice No. 11	Effective date:	1 April 2009 & Corrigenda
Notice No. 12	Effective date:	1 July 2009 & Corrigenda

Part 1, Chapter 2
Classification Regulations

CORRIGENDUM

■ *Section 3*
Surveys – General

3.5 Existing ships – Periodical Surveys

3.5.25 Where the ship is fitted with a dynamic positioning system, the system is to be examined and tested annually in accordance with the requirements of ~~Ch 3,2.2.20~~ Ch 3,2.2.23. In addition, a Special Survey is to be carried out at intervals not exceeding five years in accordance with Ch 3,11.2.9.

Part 1, Chapter 3
Periodical Survey Regulations

Effective date 1 July 2009

■ *Section 1*
General

1.5 Definitions

1.5.16 **A Corrosion Prevention System** is normally considered a full hard protective coating. This is usually to be an epoxy coating or equivalent. Other systems ~~(e.g. soft coatings)~~ with the exception of soft and semi-hard coatings, may be considered acceptable as alternatives provided they are applied and properly maintained in compliance with the manufacturer's specification.

■ *Section 2*
GeneralAnnual Surveys – Hull and machinery requirements

2.2 Annual Surveys

~~*2.2.1* The Surveyor is to be satisfied regarding:~~

~~(a) The efficient condition of hatchways on freeboard and superstructure decks, weather deck plating, ship side plating above the waterline, ventilator coamings and air pipes, exposed casings, fiddley openings, skylights, flush deck scuttles, deckhouses and companionways, superstructure bulkheads, side, bow and stern doors, side scuttles and deadlights, chutes and other openings, together with all closing appliances and flame screens. In addition, the Surveyor is to externally examine all air pipe heads installed on exposed decks and examine the weld connection between air pipes and deck plating.~~

~~(b) The efficient operating condition of mechanically operated hatch covers including stowage and securing in open condition; proper fit and efficiency of sealing in closed condition; operational testing of hydraulic and power components, wires, chains and link drives.~~

~~(c) The efficient condition of scuppers and sanitary discharges (so far as practicable); valves on discharge lines (so far as practicable) and their controls; guard rails and bulwarks; freeing ports, gangways and life-lines; fittings and appliances for timber deck cargoes.~~

~~(d) The efficient condition of bilge level detection and alarm systems on ships assigned a **UMS** notation.~~

~~*2.2.2* The following requirements for hatch covers and coamings are applicable:~~

~~(a) The Surveyor is to obtain confirmation that no unapproved changes have been made to the hatch covers, hatch coamings and their securing and sealing devices since the previous survey:~~

~~(b) Mechanically-operated steel covers are to be tested to confirm the satisfactory condition of:~~

- ~~hatch covers;~~
- ~~tightness devices of longitudinal, transverse and intermediate cross junctions (gaskets, gasket lips, compression bars, drainage channels);~~
- ~~clamping devices, retaining bars, cleating;~~
- ~~chain or rope pulleys;~~
- ~~guides;~~
- ~~guide rails and track wheels;~~
- ~~stoppers, etc;~~
- ~~wires, chains, gypsies, tensioning devices;~~
- ~~hydraulic system essential to closing and securing;~~
- ~~safety locks and retaining devices.~~

~~(c) Cargo hatch covers of the portable type (i.e. wood or steel pontoons) are to be examined to confirm the satisfactory condition where applicable, of:~~

- ~~wooden covers and portable beams, carriers or sockets for the portable beam, and their securing devices;~~
- ~~steel pontoons;~~
- ~~tarpaulins;~~
- ~~cleats, battens and wedges;~~
- ~~hatch securing bars and their securing devices;~~
- ~~loading pads/bars and the side plate edge;~~
- ~~guide plates and chocks;~~
- ~~compression bars, drainage channels and drain pipes (if any).~~

~~(d) The Surveyor is to confirm the satisfactory condition of hatch coaming plating and their stiffeners, where applicable.~~

~~(e) Where the cargo hatch securing system does not function properly, repairs are to be carried out under the supervision of the Surveyor.~~

~~(f) Where considered necessary by the Surveyor, the effectiveness of sealing arrangements may be proved by hose or chalk testing supplemented by dimensional measurements of seal compressing components.~~

~~(g) For **general dry cargo ships** and **bulk carriers** the following requirements are also applicable:~~

~~(i) The steel cargo hatch covers, coamings and stiffeners are to be subjected to close-up survey.~~

~~(ii) A thorough survey of cargo hatch covers and coamings is only possible by their examination in an open and closed position, including verification of the proper opening and closing operation. As such, the hatch cover sets located in the forward 25 per cent of the ship's length and at least one other additional set are to be surveyed open, closed and in operation to the full extent on each direction in accordance with 2.2.1(b). When selecting hatch cover sets it should be ensured that all sets are subject to survey at least once in every five-year Special Survey period.~~

~~(iii) The closing of the covers is to include the fastening of all peripheral and cross joint cleats or other securing devices, with particular attention to be paid to the condition of the hatch covers located in the forward 25 per cent of the ship's length, where sea loads are normally greatest.~~

~~(iv) Should there be difficulty in operating and securing hatch covers, then additional sets are to be tested in operation at the discretion of the Surveyor.~~

2.2.1 The survey is to include:

(a) An examination for the purpose of ensuring, as far as practicable, that the hull, hatch covers, hatch coamings, closing appliances, equipment and related piping are maintained in a satisfactory condition.

(b) Examination of weather decks, ship side plating above the waterline, hatch cover and coamings.

(c) Examination of watertight penetrations as far as practicable.

(d) Examination of the weld connection between air pipes, ventilators and deck plating.

(e) External examination of all air pipe heads installed on exposed decks.

(f) Examination of flame screens on air pipes to all bunker tanks.

(g) Examination of ventilators including closing devices, if any.

(h) The Surveyor is to be satisfied regarding the efficient condition of:

- exposed casings, skylights, flush deck scuttles, deckhouses and companionways, superstructure bulkheads, side, bow and stern doors, side scuttles and deadlights, chutes and other openings, together with all closing appliances.
- scuppers and sanitary discharges (so far as practicable); valves on discharge lines (so far as practicable) and their controls; guard rails and bulwarks; freeing ports, gangways and life-lines; fittings and appliances for timber deck cargoes.
- bilge level detection and alarm systems on ships assigned a **UMS** notation.

2.2.2 The following requirements for hatch covers and coamings are applicable:

(a) The Surveyor is to obtain confirmation that no unapproved changes have been made to the hatch covers, hatch coamings and their securing and sealing devices since the previous survey.

(b) Where mechanically operated steel hatch covers are fitted, Surveyors are to confirm the satisfactory condition of:

- hatch covers;
- tightness devices of longitudinal, transverse and intermediate cross junctions (gaskets, gasket lips, compression bars, drainage channels);
- clamping devices, retaining bars, cleating;
- chain or rope pulleys;
- guides;
- guide rails and track wheels;
- stoppers, etc;
- wires, chains, gypsies, tensioning devices;
- hydraulic system essential to closing and securing;
- safety locks and retaining devices.

(c) Where portable hatch covers, wooden or steel pontoons are fitted, Surveyors are to confirm the satisfactory condition of:

- wooden covers and portable beams, carriers or sockets for the portable beam, and their securing devices;
- steel pontoons;
- tarpaulins;
- cleats, battens and wedges;
- hatch securing bars and their securing devices;
- loading pads/bars and the side plate edge;
- guide plates and chocks;
- compression bars, drainage channels and drain pipes (if any).

(d) The Surveyor is to confirm the satisfactory condition of hatch coaming plating and their stiffeners, where applicable.

(e) The Surveyor is to carry out random checking of the satisfactory operation of mechanically operated hatch covers including:

- stowage and securing in open condition,
- proper fit and efficiency of sealing in closed condition,
- operational testing of hydraulic and power components, wires, chains and link drives.

(f) Where considered necessary by the Surveyor, the effectiveness of sealing arrangements may be proved by hose or chalk testing supplemented by dimensional measurements of seal compressing components.

(g) For **general dry cargo ships** the survey is to include a close-up survey of the hatch covers, hatch coaming and stiffeners.

(h) For **bulk carriers** the following requirements are also applicable:

- (i) The survey is to include a close-up survey of the hatch covers, hatch coaming and stiffeners.
- (ii) A thorough survey of cargo hatch covers and coamings is only possible by their examination in an open and closed position, including verification of the proper opening and closing operation. As such, the hatch cover sets located in the forward 25 per cent of the ship's length and at least one other additional set are to be surveyed open, closed and in operation to the full extent on each direction in accordance with (e) above. When selecting hatch cover sets it should be ensured that all sets are subject to survey at least once in every five-year Special Survey period. The closing of the covers is to include the fastening of all peripheral and cross joint cleats or other securing devices, with particular attention to be paid to the condition of the hatch covers located in the forward 25 per cent of the ship's length, where sea loads are normally greatest.
- (iii) If there are indications of difficulty in operating and securing hatch covers, then additional sets are to be tested in operation at the discretion of the Surveyor.
- (iv) Where the cargo hatch securing system does not function properly, repairs are to be carried out under the supervision of the Surveyor.
- (v) Surveyors are to survey the sealing arrangements of perimeter and cross joints (gaskets for condition of permanent deformation, flexible seals on combination carriers, gasket lips, compression bars, drainage channels and non-return valves).

(*Part only shown*)

2.2.30 For **oil tankers** (including ore/bulk/oil ships and ore/oil ships), in addition to the applicable requirements of 2.2.1 to ~~2.2.24~~ 2.2.29, the following are to be dealt with where applicable:

(o) Examination of any inert gas system, *see* ~~2.2.29~~ 2.2.32.

(*Part only shown*)

2.2.31 For **chemical tankers**, in addition to the applicable requirements of 2.2.1 to ~~2.2.25~~ 2.2.30, the following are to be dealt with, where applicable:

(*Part only shown*)

2.2.33 For **bulk carriers**, in addition to the applicable requirements of 2.2.1 to ~~2.2.24~~ 2.2.29, the following are to be dealt with, where applicable:

(e) Examination of bunker and vent piping systems, including ventilators.

(*Part only shown*)

2.2.34 For **general dry cargo ships**, in addition to the applicable requirements of 2.2.1 to ~~2.2.24~~ 2.2.29, the following are required for ships over 10 years of age:

(*Part only shown*)

2.2.35 For **general dry cargo ships**, in addition to the applicable requirements of 2.2.1 to ~~2.2.24~~ 2.2.29, the following are required for ships over 15 years of age:

Part 3, Chapter 5

Fore End Structure

CORRIGENDUM

■ *Section 1* General

1.5 Strengthening of bottom forward

(*Part only shown*)

Table 5.1.1 Additional strengthening of bottom forward (*see continuation*)

Item	Requirements
(2) Bottom longitudinals – other than flat bars	$\frac{d_w}{t_w} \leq 55\sqrt{k}$ $\frac{d_w\, t_w}{100} \geq 0{,}00033\, k\, h_s\, s\, c \left(S - \frac{s}{2000}\right)$ cm^2 $Z \geq 6{,}8 \times 10^{-6}\, h_s\, s\, k \left[(17{,}5 l_s)^2 - (0{,}01 s)^2 + d_w\, c \left(S - \frac{s}{2000}\right)\right]$ cm^3 $\frac{(A_1\, \tau + \alpha)}{\cancel{p}\ \ p} \times 10^{-1} \geq 1$ $A_w \geq 0{,}84 A_1$

Part 4, Chapter 2

Ferries, Roll on-Roll off Ships and Passenger Ships

CORRIGENDA

■ *Section 5* Shell envelope framing

5.2 Strengthening for wave impact loads

5.2.3 The effective section properties of secondary stiffeners are to be taken as:

(a) Plastic section modulus of secondary stiffeners, $Z_{p,}$ is to be taken as:

$$Z_p = 2{,}8 \times 10^{-4}\, s_{cm}\, t_p^2 - 10^{-3}\, b_f\, b_{fc}\, t_f \sin\theta_e + 5 \times 10^{-4}\, (h_w^2\, t_w + 2 b_f\, t_f\, h_w) \cos\theta_e \quad \text{cm}^3$$

where

θ_e = $C_0\,(90 - \varphi)$
C_o = 1,1
φ = the angle between the stiffener and the side shell, in degrees
b_{fc} = 0,5 ($b_f - t_w$) for L profiles
= 0 for flat bar and T profiles
= *see* Fig. 4.7.1 in Pt 3, Ch 4, for bulb profiles
h_w = height of stiffener web, in mm
t_w = web thickness, in mm
b_f = breadth of flange, in mm
t_f = flange thickness, in mm
t_p = thickness of attached plating, in mm

(b) Web area of secondary stiffeners, $A_{s,}$ is to be taken as:

A_s = 0,01 ($h_w + t_p$) $t_w \sin\varphi$ cm^2

■ *Section 11* Miscellaneous openings

11.3 Strength assessment of windows in large passenger ships

(*Part only shown*)

Table 2.11.2 Design pressure, H_d, on windows

Window location	Design pressure head H_d ~~in t/m^2~~ in metres

Part 5, Chapter 13

Ship Piping Systems

CORRIGENDUM

■ *Section 12* Air, overflow and sounding pipes

12.7 Air pipe closing appliances

12.7.1 The closing appliances fitted to tank air pipes in accordance with Pt 3, ~~Ch 4,12.3~~ Ch 12,3 are to be of an automatic opening type which will allow the free passage of air or liquid to prevent the tanks being subjected to a pressure or vacuum greater than that for which they are designed.

Part 6, Chapter 1

Control Engineering Systems

CORRIGENDUM

■ *Section 3* Control and supervision of unattended machinery

3.9 Auxiliary engines and auxiliary steam turbines

(*Part only shown*)

Table 1.3.8 Auxiliary engines and auxiliary steam turbines: Alarms and safeguards

Item	Alarm	Note
OIL ENGINES		
Lubricating oil inlet pressure	1st stage low	—
	2nd stage~~*~~ low	Automatic shutdown of engine~~*~~, *see* 3.1.4
Oil fuel high pressure piping~~*~~	Leakage	*See* 3.1.5
Coolant outlet temperature (for engines >220 kW)	1st stage high	—
	2nd stage high	Automatic shutdown of engine~~*~~, *see* 3.1.4
STEAM TURBINES		
Lubricating oil inlet pressure	1st stage low	—
	2nd stage low~~*~~	Automatic shutdown of turbine~~*~~, *see* 3.1.4
Condenser vacuum	Low	Automatic shutdown of turbine~~*~~, *see* 3.1.4
Axial displacement of rotor	High	

Part 6, Chapter 2

Electrical Engineering

CORRIGENDUM

■ *Section 3*

Emergency source of electrical power

3.6 Radio installation

3.6.7 If an uninterrupted input of information from the ship's navigational or other equipment to a radio installation as referred to in ~~3.6.1~~ 3.6.2 is needed to ensure its proper performance, means are to be provided to ensure the continuous supply of such information in the event of failure of the ship's main or emergency source of electrical power.

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Published by Lloyd's Register
Registered office
71 Fenchurch Street, London, EC3M 4BS
United Kingdom